

In the claims:

Please substitute the following full listing of claims with their current status for the claims as originally submitted or most recently amended.

1. (Currently Amended) An integrated circuit including
  - a patterned copper layer,
  - a patterned aluminum layer,
  - an opening in a layer of material, said opening extending between a location on said patterned copper layer and a location on said patterned aluminum layer,
  - a multi-layer barrier liner in said opening and having a thickness, said liner extending between said patterned aluminum layer and said patterned copper layer at said location on said patterned copper layer, said multi-layer barrier layer including at least a first layer being of a material which is conductive and having a reactivity with copper substantially equal to or less than has adhesion to copper and tungsten comparable to that of tantalum or tantalum nitride or titanium nitride and resists interdiffusion of copper and tungsten and a second layer formed on said first layer and being of a material which assists in the formation of a stud during deposition of tungsten on which tungsten can be deposited, one or both of said first and second layers forming a conductive barrier to process materials which are reactive with copper, and
  - a stud connection formed of tungsten and located within said liner.
2. (Original) An integrated circuit as recited in claim 1 wherein said liner comprises
  - a layer of tantalum nitride, and
  - a layer of PVD tungsten.

3. (Previously Presented) An integrated circuit as recited in claim 1 wherein said liner comprises

a layer of tantalum nitride,  
a layer of titanium nitride, and  
a layer of titanium nitride or PVD tungsten.

4. (Cancelled)

5. (Original) An integrated circuit as recited in claim 1 wherein said patterned aluminum layer includes a layer of at least one of titanium and titanium nitride.

6. (Original) An integrated circuit as recited in claim 2 wherein said patterned aluminum layer includes a layer of at least one of titanium and titanium nitride.

7. (Original) An integrated circuit as recited in claim 3 wherein said patterned aluminum layer includes a layer of at least one of titanium and titanium nitride.

8. (Cancelled)

9. (Original) An integrated circuit as recited in claim 1, further including a covering layer.

10. (Original) An integrated circuit as recited in claim 9 wherein said covering layer includes a layer of silane-based high density plasma oxide.

11. - 16. (Canceled)